

Title (en)
Hydraulic power steering system with noise attenuation

Title (de)
Hydraulische Servolenkung mit Geräuschverminderung

Title (fr)
Direction assistée hydraulique avec atténuation du bruit

Publication
EP 0873931 A3 20000913 (EN)

Application
EP 98107515 A 19980424

Priority
US 84757197 A 19970424

Abstract (en)
[origin: EP0873931A2] An apparatus comprises a reservoir (14) containing hydraulic fluid (68), a gear pump (16) with a suction hole (74), and a hydraulic muffler (18). The gear pump (16) has gears (78) with meshing teeth (80) that convey a flow of hydraulic fluid (68) from the reservoir (14) into the pump (16) through the suction hole (74). The muffler (18) attenuates noise by damping flow rate fluctuations that are caused by the meshing gear teeth (80). The muffler (18) includes a compliant element (92) and a fluid inertia structure (90) interposed between the suction hole (74) and the fluid (68) in the reservoir (14). The inertia structure (90) responds to the flow rate fluctuations by directing corresponding hydraulic pressure fluctuations to deflect the compliant element (92). As a result, noise is attenuated upon deflection of the compliant element (92). <IMAGE>

IPC 1-7
B62D 5/06

IPC 8 full level
B62D 5/06 (2006.01); **B62D 5/07** (2006.01); **F04C 15/00** (2006.01)

CPC (source: EP US)
B62D 5/062 (2013.01 - EP US); **F04C 15/0049** (2013.01 - EP US)

Citation (search report)

- [XY] FR 2305614 A1 19761022 - DANFOSS AS [DK]
- [Y] US 5582006 A 19961210 - PHILLIPS EDWARD H [US]
- [Y] DE 4328520 A1 19950302 - WAP REINIGUNGSSYSTEME [DE]
- [Y] US 3900276 A 19750819 - DILWORTH JOHN LEWIS

Cited by
CN109267808A; FR2903459A1; EP1004772A3

Designated contracting state (EPC)
AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE

DOCDB simple family (publication)
EP 0873931 A2 19981028; EP 0873931 A3 20000913; AU 695369 B1 19980813; BR 9801458 A 20010918; JP 2960049 B2 19991006; JP H10324256 A 19981208; US 5961309 A 19991005

DOCDB simple family (application)
EP 98107515 A 19980424; AU 6356598 A 19980423; BR 9801458 A 19980424; JP 11452298 A 19980424; US 84757197 A 19970424